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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,806	10/11/2005	Bernhard Gleich	DE 030116	5535
24737 7590 02/19/2010 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
DEJONG, ERIC S				
ART UNIT		PAPER NUMBER		
1631				
MAIL DATE		DELIVERY MODE		
02/19/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/552,806

Applicant(s)

GLEICH, BERNHARD

Examiner

ERIC S. DEJONG

Art Unit

1631

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19, 41 and 42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 41 and 42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED OFFICE ACTION

Applicants response filed 10/20/2009 is acknowledged.

Claims 1-19, 41, and 42 are pending. Claims 20-40 are cancelled. Claims 41 and 42 are newly presented. Claims 1-19, 41, and 42 are currently under examination.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claim Rejections - 35 USC § 112

The rejection of claims 1-19 under 35 U.S.C. 112, second paragraph, as being indefinite is withdrawn in view of amendments made to the instant claims.

Claim Rejections - 35 USC § 102

The rejection of claim 1 under 35 U.S.C. 102(b) as being anticipated by either of Heldmann et al. or Wasterby et al. is withdrawn in view of amendments made to the instant claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of Heldmann et al. or Wasterby et al. in view of Zakharov et al. (Physical Review E, 2000).

The instant claim is directed to an broad process for evaluating signals that depend on the magnetization in an examination area influenced by changing magnetic field strength over a spatial region of said examination area comprising magnetic particles. The magnetic particles are further limited to agglomerated and/or coupled to one another in pairs or more, particularly covalently, ionically, coordinatively or via hydrogen bridge bonds or Van der Waals bonds. Further said magnetic particles have two states, where a second state is introduced by a magnetic field. In it's current form, the claimed process is so broadly constructed that it encompasses any and every NMR and MRI spectroscopic technique that requires the use of spatial magnetic field gradients applied to spin $\frac{1}{2}$ nuclei. Such methods broadly include every known MRI imaging techniques, NMR spectroscopic investigations of solution state biological structures, and solid state NMR investigations. Heldmann et al. and Wasterby et al. are relied upon in the instant rejection for demonstrating the application of spatial gradient fields to sample containing spin $\frac{1}{2}$ nuclei that flip between spin $\frac{1}{2}$ and spin $-\frac{1}{2}$ states

under the influence of RF-magnetic field pulses as described above and instantly claimed. For these reasons it is maintained that Heldmann et al. and Wasterby et al. expressly teach and demonstrate the fundamental spectroscopic steps and principles encompassed by the instant claims as routine as well known in the practical art of spectroscopic investigations involving magnetic resonance properties of molecular compositions (such as NMR and MRI spectroscopic techniques).

While the prior art of Heldmann et al. and Wasterby et al. set forth the fundamental spectroscopic steps that are routinely practiced in the arts of spectroscopic investigations, neither Heldmann et al. nor Wasterby et al. expressly teach the newly presented limitations directed correlating changes in a spatial distribution of magnetic particles to a local concentration, temperature, pressure, viscosity or pH value.

Zakharov et al. is relied upon for teaching order parameters and rotational diffusion constants are derived from NMR measurements and analysis that is directly correlated to temperature and viscosity properties of a sample under investigation (see Abstract and throughout).

Therefore it would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to use the spectroscopic techniques based on nuclear magnetic resonance measurements of samples to determine values and parameters correlated to the temperature and/or viscosity of a sample under investigation because Zakharov et al. expressly teaches the use the magnetic resonance spectroscopic techniques, such as that taught by either of

Heldmann et al. and Wasterby et al., for the determination of temperature and viscosity parameters of a sample under investigation.

Response to Arguments

Applicant's arguments filed 10/20/2009 have been fully considered but they are not persuasive in light of the new grounds of rejection set forth above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC S. DEJONG whose telephone number is (571)272-6099. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran can be reached on (571) 272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ERIC S. DEJONG/
Primary Examiner, Art Unit 1631